

In general the whole chart shows a wide range of variation for most of the species. Perhaps this is not unexpected for this rather severe climate but when the correlation between the recorded mean temperatures and the first flowering is as plainly shown as by the seasons 1917 and 1921, if not by others, it seems probable that temperature is the chief controlling factor.

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## A CASE OF PISTILLODY AND STAMINODY IN THE PLUM.

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This past season in a variety of cultivated plum, probably (*Prunus triflora*) x (*P. triflora* x *Simonii*), a queer case of pistillody of the stamens and staminody of the petals occurred. These are not unusual phenomena but, as they are most often reported, one whorl of floral parts is entirely and uniformly replaced by another. In this case, however, there was more or less of a gradation from one member to another within the different whorls.

Normally the flowers of the plum (*Prunus spp.*) are arranged after this fashion: A single pistil, bearing one style and one stigma, at the bottom of a cup-shape receptacle on the edge of which are five sepals, five petals, and fifteen to many stamens—the petals alternate with the sepals. Fifty per cent of the flowers on the trees of this variety were so arranged, but the other fifty per cent presented a host of variability.

Frequently the stamens were replaced by pistils and when this was the case the pistils were either five in number and alternate with the petals or ten in number in five groups of two, likewise alternate with the petals. On the inner side of each of these pistils from the stigma to the base of the ovary ran a distinct suture, so that their appearance was that of what might be characterized as "introrse pistils," a name which is seen to be more appropriate when it is said that normally the pistils dehisced along this line and aborted the ovule contained within the ovary.

One whorl of replaced stamens consisted of four pistils of the nature just described and, in place of the fifth, a filament-like object of about the same length as the other pistils and terminated by a stigma. Probably this was a pistil devoid of an ovary, yet its appearance was that of a stamen whose anther had been replaced by a stigma. Another instance very similar to the last consisted of a whorl of four pistils and one stamen in place of the whorl of stamens; and again in an arrangement, likewise alternate with the petals, of eight pistils in four groups of two, and a pistil and stamen-like pistil, as described above, together in the fifth group.

The petals when replaced by stamens exhibited similar gradations. In one flower instead of the normal five petals were found (1) three petals, (2) a filament-like member terminated by a small petal-like appendage, and (3) a filament-like member terminated by a similar petal-like part but with two swellings that suggested the formation of an anther. Another flower exhibited for its whorl of petals three petals, one filament-like petal, and one stamen. Finally, in still another were combined several of these instances. For the whorl of petals were three petals, a filament-like petal, and a stamen; for the whorl of stamens were four pistils and one stamen. In no cases were the sepals or the main pistil variable.

The setting of the fruit was normal and the abnormal pistils were lost when the calyx, from which they arose, was pushed off by the developing main ovary. There were two trees of the variety under observation and both exhibited the same phenomena. Whether this peculiarity is a varietal characteristic or the result of a frost which occurred about the time of blossoming is not known.

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